

July 2015

Rush County

Estimated Economic Impact of Agriculture, Food, and Food Processing Sectors

A total of 9 agriculture, food, and food processing sectors were analyzed to determine their overall contribution to the Rush County economy.¹ These 9 sectors have a total direct output of approximately \$105 million and support 457.0 jobs in Rush County. Running the model for all 9 sectors simultaneously produces the following results:

Agriculture Contribution in Rush County

Impact Type ²	Employment	% of Total Employment	Total Value Added ³	% of Gross Regional Product ⁴	Output ⁵	% of Gross Regional Product
Direct Effect	457.0	20%	\$27,153,034	19%	\$104,954,524	75%
Indirect Effect	62.6	3%	\$3,932,108	3%	\$7,883,509	6%
Induced Effect	19.6	1%	\$1,599,808	1%	\$2,788,352	2%
Total Effect	539.2	24%	\$32,684,950	23%	\$115,626,385	83%

As shown in the above table, agriculture, food, and food processing supports 539.2 jobs, or 24% of the entire workforce in the county. These industries provide a total economic contribution of approximately \$116 million, roughly 83% of Gross Region Product (GRP). As noted below in the calculation of Gross Regional Product, imports and institutional sales are subtracted. Therefore, counties that import a relatively large amount of goods and services will have a reduced GRP which may lead to agricultural output being greater than GRP.

Another metric used to calculate the importance of sectors in an economy is their value added as a percentage of GRP. Total value added by the 9 agriculture, food, and food processing sectors is approximately \$33 million, or 23% of the GRP. This indicates that personal income, business income, and taxes generated by these sectors account for 23% of the total economy.

The following tables document the overall summary numbers of the model, top industries affected by employment and output, and a listing of all industries that were analyzed.

¹ Article on building a contribution analysis in IMPLAN that avoids double counting:
https://implan.com/index.php?option=com_content&view=category&id=19

² Direct, indirect, and induced effects sum together to estimate the total economic contribution in the state. **Direct effects** capture the contribution from agricultural and food products. **Indirect effects** capture the economic benefit from farms and agricultural businesses purchasing inputs from supporting industries within the state. **Induced effects** capture the benefits created when employees of farms, agricultural businesses, and the supporting industries spend their wages on goods and services within the state.

³ Value Added = Labor Income + Indirect Business Taxes + Other Property Type Income

⁴ GRP = Final Demand of Households + Governments Expenditures + Capital + Exports - Imports - Institutional Sales

⁵ Output = Intermediate Inputs + Value Added

In the top ten by employment, Grain farming is the top employer in the agriculture industry with 153.2 employees. This table also shows the amount of jobs that are created by the agriculture industry in Rush County.

Top 10 Industries Affected by Employment

Sector Description:	Total Employment	Total Output
Grain farming	153.2	\$45,699,550
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	151.4	\$33,429,915
All other crop farming.....	68.8	\$7,434,487
Animal production, except cattle and poultry and eggs.....	60.2	\$5,193,909
Meat processed from carcasses	18.9	\$8,900,876
Wholesale trade.....	17.3	\$3,286,454
Truck transportation.....	9.9	\$1,438,113
Support activities for agriculture and forestry	9.3	\$542,730
Monetary authorities and depository credit intermediation	6.6	\$1,003,839
Maintenance and repair construction of nonresidential structures	4.4	\$586,095

The Grain farming industry directly contributes approximately \$46 million to Rush County's economy. This table also shows how much revenue is generated in other industries by having a strong agriculture industry.

Top 10 Industries Affected by Output

Sector Description:	Total Employment	Total Output
Grain farming	153.2	\$45,699,550
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	151.4	\$33,429,915
Meat processed from carcasses	18.9	\$8,900,876
All other crop farming.....	68.8	\$7,434,487
Animal production, except cattle and poultry and eggs.....	60.2	\$5,193,909
Oilseed farming	1.9	\$3,440,918
Wholesale trade.....	17.3	\$3,286,454
Truck transportation.....	9.9	\$1,438,113
Owner-occupied dwellings	0.0	\$1,152,139
Monetary authorities and depository credit intermediation	6.6	\$1,003,839

Below is a summary of all agriculture data with employment levels and output level. These values can tell how many jobs are represented by each agriculture sector and the output they contributed to Rush County's economy.

[illegible]

All 105 counties in Kansas have IMPLAN models with an agriculture contribution summary. These values do not factor in the retail environment of food sales. Food retail is important, but in order to provide the most accurate picture of what production agricultural and processing contributes to Kansas, the retail sector was omitted.